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COLLECTING AND MAKING USE OF LOCAL GEOGRAPHY MATERIAL

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In a recent unfinished investigation in which I have been participating, it is the opinion of some fifty employers of fifteen thousand wage-earners that practically no knowledge of geography is needed in the lower, and larger, classes of labor. Advancing to the higher types of labor requiring general or special information and individual initiative, geographical knowledge seems increasingly valuable, and in the highest executive positions, indispensable. Quite generally, the knowledge most needed applies to our own region and to the use of maps.

The teacher of geography will do well to use this vitalizing link between the school and the outside world of business in her study of the great factors of economic development at work in her own region. Temperature, winds, rainfall, surface, and natural resources—all these are typical conditions of the marked growth of certain industries and of the absence of certain others. In our own case, there are questions which the children are asking repeatedly, "Why did Omaha, instead of the older river settlement of Bellevue, only a few miles away, grow to be the metropolis of Nebraska?" "Why did the railway cross the river just at the little town of Omaha instead of to the north or south of it?" "Where do we get the millions of head of live stock which are brought here annually, and what is done with them all?" "Why do we have one of the world's great gold and silver refineries on our river bank when the state has no mines?" These and other questions suggest themselves, and their answers make us realize something of the magnitude of the circle described by Omaha's radius of supply and distribution.

It was to obtain answers to these and kindred questions that I sent out to local manufacturers, more than two years ago, a letter with the following questionnaire:

1. Name of plant.
2. What articles are manufactured?
3. What by-products of the industry are there?
4. What raw materials are used?
5. Where are the raw materials obtained?
6. What use is made of so-called waste materials?
7. What is the capacity production of the plant?
8. Where is the machinery manufactured?
9. Over what area is the manufactured product distributed?
10. How many persons are employed?

The letter was printed by the boys in a trade school in the city system and entailed no expense except for postage. Copies were sent to about fifty representative manufacturers and a large proportion of the letters were answered.

The replies show that the local manufacturer is concerned chiefly with converting the raw materials of this rich agricultural region into food for men and animals, but that even in this he is dependent on other regions of his own and other countries for certain essentials in his manufacturing, and that, in return, he is helping to supply the world demand for food. They show that other kinds of manufacturing—as the manufacture of clothing, foundry products, and some kinds of machinery—have been developed in response to the needs of the region, and that, while these Omaha-made goods may be found in Alaska, South America, or Europe, the demand for them is very largely from the territory upon which Omaha depends for its industrial growth. They show that nearly all of the machinery in Omaha factories comes either from the northern states of the Atlantic seaboard or from the cities of the Great Lakes. In giving the sources of the raw material and the distribution of the finished product, the letters show the importance of Omaha's position on a direct line of east and west travel.

The letters are kept in a loose-leaf notebook and are used most by the eighth grade in their study of Nebraska and Omaha. The class works in groups, each group studying, under the leadership of a chairman who has some particular fitness for his position, one of the big industries of the region. The letters are suggestive of points to be considered in the study, and I think they are of value chiefly in giving the boys and girls a point of attack. Occasionally we visit a factory as a class, or two members of the class ask to go alone to some industrial plant with a letter from me, and a discussion of one of these letters before the visit makes us, I think, more intelligent in our questions and observation.

One study in which we find the letters most instructive is our study of the iron industry of Omaha. A general survey of the industry is based on letters from a company producing structural iron and foundry products and from a structural steel company. Beginning with the general problem of what has led to the growth of such phases of the iron industry as are carried on here and why Omaha does not compete with the Great Lakes cities in the manufacture of steel and machinery, the class develops some such outline as the following:

A. Raw products—iron, limestone, coke, steel.
  1. Source of supply:
    a) Iron—soft ore, Lake Superior district; hard ore, Birmingham district.
    b) Limestone—southeastern Nebraska.
    c) Coke—Wisconsin.
    d) Steel—Pittsburgh, Johnstown, Buffalo.
  2. Method of production:
    a) Mining—open pit and shaft.
    b) Quarrying.
    c) Coke ovens.
    d) Steel manufacture.
  3. Transportation:
    a) Railways.
    b) Great Lakes Waterway.
B. Local manufacture.
  1. Iron—locomotive and machinery parts, structural and ornamental iron, railway signals (electric).
  2. Steel—buildings, bridges, tanks, towers, smoke-stacks, coal tipples, stand-pipes, dams.
C. Distribution.
  1. Iron—locally and over the northwest sections of the United States.
  2. Steel—locally, west of the Missouri River, and even in the Hawaiian Islands.

The article on "Steel-Industry's Greatest Asset," in the *National Geographic Magazine* for August, 1917, the chapters on "Iron" and "Coal" in Nellie B. Allen's *Industrial Studies of the United States*, and the descriptive material on the Underwood and Underwood industrial slides, furnish excellent supplementary material for this study. We have a limited number of the industrial slides and we find them most valuable. I look forward to the time when a well-chosen collection of slides with accompanying stereographs and stereoscopes will be considered an indispensable part of a school equipment. It is seldom that one school is able to secure such equipment as it entails too great expense for the average school. However, a collection of slides, stereographs, and stereoscopes for general use has been found a wise investment in some school systems. Where slides are not available, post-cards and magazine illustrations serve to make a recitation more graphic. One of the most instructive reports I have ever heard was given by a boy who illustrated his talk at the blackboard.

Sometimes letters are written to state bureaus or to other towns for bulletins or with requests for some special information. Once a letter, sent at random to an official of a county producing an unusual product, fell into the hands of a school girl who answered fully and enclosed a sample of the product. However we set about our study, we are met with a spirit of co-operation and cordiality most beneficial to the children. "We thank you for your inquiry of the 22nd," one manufacturing firm replied to the letter of an eighth-grade girl, "and are glad to know that Omaha school children are interested in the home industries." Her inquiry was answered by the head of a department, and their printed matter was also sent to her. Whatever is collected by the class in their study is left for succeeding classes to use. Some of the material we get in this way is of a purely advertising nature, but often it is of real educational value. I doubt if any teacher realizes, until she has tried the resources of her own locality, how much valuable material she can obtain at home. We have a good number of post-cards and other pictures of home industries for use in the balopticon, and I have made all of our little collection of Nebraska slides from my own negatives or from negatives lent by children or other teachers. Just now two of our boys are at work on a rubber exhibit to be made from samples which they have collected from automobile firms and from a local tire factory.

In its report to the class, the group has an opportunity to exercise its own initiative. Often it makes use of the balopticon for illustration. The boys and girls recognize that the report must be concise and forceful if it commands the attention of the class. Last year at the close of our work on Nebraska, each member of the class prepared a three- or four-minute speech on some phase of the subject most interesting to him, imagining himself a promoter addressing prospective investors in this locality. The English teacher co-operated in the preparation of the speeches. About sixteen of the most effective were given one afternoon when representatives from the Chamber of Commerce were invited to hear them. The speeches were the result of thoughtful work on the part of the children and were given with the enthusiasm of civic pride.

My first impetus in collecting local geography material came through a "Know Omaha Better" campaign conducted some years ago by the Chamber of Commerce. The city was new to me and I had never taught geography. I found the children quite as interested as I was in collecting the campaign publications, and we soon had a table of Omaha material from which we were learning of local industries and of the rank of our own city among the cities of the country. Some of that material, of more than passing value, we are still using; much of it has given place to later publications of the Chamber of Commerce.

One of these publications is the reprint of an article, "Creating a Circle of Trade," by Mr. Will A. Campbell, published in *The World Mirror* of July, 1909. This story of Omaha, written by an Omaha man for "a monthly publication reflecting the work of the world"—a publication with the avowed policy of securing authenticity in its articles—was one of the leading articles of the issue. It is the story of the city's growth from a frontier trading-post into a center of industry and commerce. It gives a concrete illustration of the economic conditions which underlie the growth of cities. It tells of the factors contributing to that growth—of the fertile soil, of railroads, of the lean years and the Trans-Mississippi Exposition, and of the markets for live stock and grain following Omaha's development as a railroad center. It is well illustrated and readable for adult or child. We have another reprint from the *London Times* telling of the rapid development of Omaha's markets and of her manufactures. A quarter-century anniversary booklet of the Stock Yards Company tells ot the beginning and the development of the live-stock market, of the men who played a part in that development, and of the market in operation. Another booklet which we find of especial interest is a little Armour booklet containing a description of the varied by-products of the packing industry. From one of our local furniture retailers we received copies of a little book on the making of Oriental rugs, and from a dry-goods merchant enough copies for class use of the story of silk culture and manufacture.

A state Publicity Bureau publishes *Nebraska Facts*, prepared by Dr. George E. Condra, author of *Geography of Nebraska* and for some years professor of geography in the University of Nebraska. This work gives a general survey of the important industries of the state. It tells of the comparatively new industries of sugar-beet growing in the irrigated North Platte Valley and of the production of potash in the barren lake region of northwest Nebraska. A recently organized Bureau of Research in the University, with Dr. Condra in charge, issues bulletins on these and other phases of the state's industrial development and urges teachers of geography to make use of the bulletins in their classroom work.

The Chamber of Commerce, in its Publicity Bureau, has been an unfailing source of information concerning our own community and the region upon which it depends for its development. The bureau publishes yearly statistics of the city's manufacturing and wholesale business, compiles crop reports ranking our own state with other states, and issues various other pamphlets explaining Omaha's importance as a manufacturing, distributing, and transportation center. If I have wanted more definite information than I could obtain there, I have been directed to someone whose word on the subject under consideration would be authoritative.

The Philadelphia Chamber of Commerce has issued a series of educational booklets on its industries for use in its schools. Our Publicity Bureau was asked if something similar could not be published here, and after a careful consideration of the subject and a study of the Philadelphia series, it decided to carry out the idea, but to have the pamphlets written by teachers so that the viewpoint will be educational rather than advertising. One of these pamphlets, on the live-stock industry, has already been published; another, on the grain market, is in the press; and others will be published as teachers can be found to prepare them. The preparation of such a pamphlet well repays the teacher who undertakes it, for her information is obtained from men who hold important places in our industrial life, but who are not too busy to give the desired information for the sake of the boys and girls now in training for the industrial life of tomorrow.

For a wider range of material, I am much indebted to the admirable list of material on geography made by Miss Mary Josephine Booth of the Eastern Illinois State Normal School at Charleston, Illinois. This list was published first in a normal school bulletin and was reprinted in the *Journal of Geography*. Through this list we have secured many valuable pamphlets, maps, and pictures, at very slight cost.

Our material is kept in a cabinet made for it in the school supply shops. When we had collected so much material that we had no place where it could be kept within easy access of the children, we planned this cabinet and asked that it might be made for us. We offered convincing arguments that it was a practical necessity and produced a working drawing, and we have what we planned in almost every detail. The cabinet has thirty-eight shallow drawers in two tiers and a map closet at one end. The material is classified and a typewritten index mounted on cardboard is kept beside the cabinet so that the material on any subject can be found without delay.

It is a relatively simple matter for the teacher of geography to acquire a very fair volume of the timely local material which she should have to supplement the school text. If in her own mind she knows what she wants and why she wants it, and uses every available means to get it, she will soon be surprised at the accumulation of valuable material, and she will be impressed by the courtesy and co-operation she receives from individuals and from organizations in position to give her the information she is seeking.